



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/446,769 | 05/05/2000 | KAZUE NAKAMURA | 450118-4848 | 2863 |

20999 7590 07/12/2004
FROMMER LAWRENCE & HAUG
745 FIFTH AVENUE- 10TH FL.
NEW YORK, NY 10151

EXAMINER

CHANNAVAJALA, SRIRAMA T

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2177

26

DATE MAILED: 07/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/446,769

Applicant(s)

NAKAMURA, KAZUE

Examiner

Srirama Channavajjala

Art Unit

2177

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Claims 1-17 have been cancelled, paper no. # 25.
2. Claims 18-24 have been added, paper no. # 25.
3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10 September 2003 has been entered, paper no. # 22, the Amendment filed on 9/10/2003 paper no. # 23 has been entered, and a non-final Office action paper no. # 24 mailed on 11/5/2003.
4. Examiner acknowledges Applicant's amendment filed on 9/10/2003, paper no.23.
5. Claims 1,13 have been amended, paper no. # 23.
6. Examiner acknowledges Applicant's amendment filed on 2/24/2003, paper no.16.
7. Claims 1 and 13 have been amended, paper no. # 16.
8. The request filed on October 02, 2002 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on Application No. 09/446,769 is acceptable and a CPA has been established, paper no. # 10.
9. Examiner acknowledges applicant's Amendment, filed on 10/2/2002, paper no. # 12 has been entered.
10. Claims 1 and 13 amended, paper no. # 12.

Art Unit: 2177

11. Examiner acknowledges Applicant's response to office action filed on April 10 2002, paper no. # 9.
12. Examiner acknowledges "**preliminary amendment**", filed on 12/23/1999.
13. Claims 1-17 are pending in this application.

Drawings

14. The drawings filed on 5/5/2000 are approved by the Draftsperson under 37 CFR 1.84 or 1.152.

Information Disclosure Statement

15. The information disclosure statement filed on 9/19/2000, paper no. # 6 has been considered and a copy was enclosed with this office action, paper no. # 8.

Priority

16. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d), based on International Application No. **PCT/JP99/02243**, filed on 27 April 1999, **P10-117537** filed on 27 April 1998.

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. Claims 18-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosouchi et al., [hereafter Hosouchi], US Patent No. 5579507 in view of Kamiyama, US Patent No. 5893139.

19. As to Claim 18, 24, Hosouchi teaches a system which including 'a file storage and read-out management apparatus comprising a single processor' [fig 4]; 'a high-speed operation memory connected to said processor and formed to transfer a program to be operated in said processor thereof' [col 6, line 11-24, line 66-67, col 7, line 1-6], high speed operation memory corresponds to direct access storage as detailed in fig 3-4; 'a first storage medium [see fig 3, element 102], connected to said processor and storing a plurality of files used for signal processing at said processor' [col 6, line 11-18], 'file as a result of the signal processing at said processor being transferred from said high-speed operation memory to said first storage medium' [col 6, line 19-24, col 7, line 11-15], Hosouchi specifically teaches transferring data between processor and storage devices as detailed in col 7, line 12-15;

'a second storage medium [fig 4, element 103] connected to said processor and used for saving the file to be stored in said first storage medium' [fig 3-4];

'a migration priority determining means operated in said processor' [col 5, line 62-67, col 6, line 1-9]; 'for determining a migration priority of the files stored in said first storage medium in response to data transfer and retrieval speeds of said first and second storage media' [col 6, line 57-65, col 8, line 32-45]; 'a lapse time after stored in said first storage medium and parameter set from outside of said file storage and read-out management apparatus' [col 9, line 30-36];

'a migration processing means, operated in said processor, for transferring the file stored in said first storage medium to said second storage medium in response to the migration priority determined in said migration priority determining means' [col 9, line 3-16]; 'making the region in a vacant state, in which the transferred file was stored to enable the region for storing other file, and saving an access information of the transferred file in said first storage medium' [col 9, line 41-63];

'a reloading means, operated in said processor, for retransforming the file storage in said second storage medium, which is determined a status of vacant regions in said first storage medium and the migration priority' [col 10, line 1-19]; 'first storage medium in accordance the access information saved in the first storage medium, and making the region in said second storage medium in a vacant state, in which the retransferred file was stored' [col 10, line 10-19];

'a direct device access means, operated in the processor, for directly transferring the corresponding file stored in said second storage medium to a predetermined region in said high-speed operation memory without retransferring that corresponding file to said first storage medium when an access request is issued to the corresponding file

which was transferred from the first storage medium to the second storage medium by said migration processing means' [fig 3-4, col 3, line 28-38, col 4, line 51-59].

It is however, noted that Hosouchi does not specifically teach 'a frequency of use of the files stored in said first storage medium'. On the other hand, Kamiyama disclosed a frequency of use of the files stored in said first storage medium '[col 2, line 3-16, line 20-36, col 4, line 59-65, col 5, line 7-14, fig 4], a frequency of use of the files stored corresponds to access frequency of data as detailed in fig 4.

It would have been obvious to one of the ordinary skill in the art at the time of applicant's invention to incorporate the teachings of Kamiyama into data transfer control of virtual storage supported by three level hierarchal storage of Hosouchi et al., because both Kamiyama and Hosouchi are directed to data storage devices [see Hosouchi: fig 1-4; Kamiyama: fig 1-2], more specifically Hosouchi is directed to transferring, migrating of data between external storage devices [see Abstract], both Hosouchi, Kamiyama are directed to transferring data from one storage to another storage that including external or removable storage [see Hosouchi : col 4, line 16-24; Kamiyama: col 10, line 65-67, col 11, line 1-6].

It would have been obvious to one of the ordinary skill in the art at the time of applicant's invention to modify Hosouchi's reference, more specifically modifying Hosouchi's fig 3, especially to incorporate access management of Kamiyama's fig 3,

element 14 because that would have allowed users of Hosouchi not only monitor specific file or data access frequency with time and location [see Kamiyama: fig 11-14, fig 25] but also categorize and store data or files based on frequency of access such as high frequency access, low frequency access, ultra frequency access and like, further bringing the advantages of effectively managing data storage area(s) or disk space in a hierarchical form or multistage form, enhance the access speed and the improving quality of data and performance of the system [see Kamiyama: [col 5, line 36-49].

20. As to Claim 19, most of the limitations of this claim have been noted in the rejection of Claim 18 above. In addition, with respect to the claimed feature both Hosouchi and Kamiyama disclosed 'processor comprises a computer' [see Hosouchi: col 3, line 27-31; Kamiyama: fig 27, element 102].

21. As to Claim 20, most of the limitations of this claim have been noted in the rejection of Claim 18 above. In addition, with respect to the claimed feature both Hosouchi and Kamiyama disclosed 'first storage medium is a hard disk' [see Hosouchi: col 3, line 45-47; Kamiyama: fig 27, col 15, line 23-30], further it is noted that hard disk is integral part of any computer or PC and is common knowledge in the art.

22. As to Claim 21, most of the limitations of this claim have been noted in the rejection of Claim 18 above. In addition, with respect to the claimed feature both Hosouchi and Kamiyama disclosed 'second storage medium is a removal medium' [see

Art Unit: 2177

Hosouchi: fig 3, element 103-104 external storage; Kamiyama: fig 1: element 4, element 5a-5n, col 4, line 6-17].

23. As to Claim 22, most of the limitations of this claim have been noted in the rejection of Claim 18 above. In addition, with respect to the claimed feature Hosouchi disclosed 'migration priority determining means determines the priority of migration based on a predetermined standard for a plurality of files stored on the first storage medium and performs the migration from the file with the highest priority' [col 6, line 57-65,col 8, line 32-45].

24. As to Claim 23, most of the limitations of this claim have been noted in the rejection of Claim 18 above. In addition, with respect to the claimed feature Kamiyama disclosed 'the file stored in said first storage medium as a node defined by a header region and a user data region' [col 1, line 38-44, col 4, line 66-67, col 5, line 1-5]; 'said access information saved in first medium includes said node, a start of the user data region, and a logical size of the file before migration' [col 5, line 36-49, col 6, line 42-48].

Response to Arguments

25. Applicant's arguments filed on 5/5/2004 have been fully considered, but are moot in view of the new ground(s) of rejection.

In light of the news claims 18-24, examiner rejected these news claims under 35 U.S.C. 103(a) as being unpatentable over Hosouchi et al., [hereafter Hosouchi], US Patent No. 5579507 in view of Kamiyama, US Patent No. 5893139., and therefore, moot in view of the new grounds(s) of rejection.

26. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 2177

Conclusion

The prior art made of record

- a. US Patent No. 5579507
- b. US Patent No. 5893139

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure

- c. US Patent No. 5751997
- d. US Patent No. 5829023
- e. US Patent No. 5313631
- f. EP0827079
- g. US Patent No. 5542072


Art Unit: 2177

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Srirama Channavajjala whose telephone number is (703) 308-8538. The examiner can normally be reached on Monday-Friday from 8:00 AM to 5:30 PM Eastern Time. The TC2100's Customer Service number is (703) 306-5631.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene, can be reached on (703) 305-9790. The fax phone numbers for the organization where the application or proceeding is assigned are as follows:

| | |
|--------------|--|
| 703/746-7238 | (After Final Communication) |
| 703/872-9306 | (Official Communications) |
| 703/746-7240 | (For Status inquiries, draft communication) |

Any inquiry of general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-9600.

sc 
Patent Examiner.
June 30, 2004.